REMARKS

Claims 2-6 and 8-33 are pending for further examination.

Applicant has amended independent claim 2 by incorporating the features of claim 7 (now canceled). Dependent claim 8 is amended to depend from claim 2, in view of the cancellation of claim 7. Applicant respectfully requests entry of the amendments.

In the Office action, claims 2, 4, 13, 20 and 21 were rejected under 35 U.S.C. §103(a) as unpatentable over U.S. Patent No. 6,757,419 (Ross) in view of WO 01/507,735 (Holl) utilizing U.S. Patent No. 6,891,180 as an English-language counterpart.

Dependent claim 7 was rejected under 35 U.S.C. §103(a) as unpatentable over the Ross patent in view of Holl and further in view of U.S. Patent No. 5,479,570 (Imagawa).

The other claims were rejected under 35 U.S.C. §103(a) as unaptentable over the Ross patent in view of Holl and further in view of one or more of the following references: U.S. Patent No. 6,483,576 (Gardner), U.S. Patent No. 6,343,138 (Rhoads), U.S. Patent No. 6,459,806 (Raterman), the Imagawa patent, U.S. Patent Publication No. 2003/0035565 (Rhoads), an IEEE article by Wolberg, and U.S. Patent No. 6,819,410 (Adameck).

Applicant respectfully requests reconsideration.

Independent claim 2 recites a method of testing a currency item. The method includes deriving a plurality of measurements of the currency item at a resolution (R) and processing the measurements to derive values at a different resolution. According to claim 2, the resolution is reduced in the spectral domain, and the method includes filtering a signal of the measured values in the spectral domain to reduce the resolution in the spectral domain by taking a subset of the set of spectral components.

Claim 2 (as amended) also recites deriving a feature vector "using the subset of spectral components." As explained according to an example in the specification (page 10, lines 15-18):

> In general terms, an n-dimensional feature vector is derived from measurements of characteristics of a banknote, and the feature vector is input to the neural network for classification.

Thus, the claimed subject matter provides flexibility in the resulting feature vector depending on the reduced resolution obtained by taking a subset of the set of spectral components.

Applicant submits that the cited references, taken alone or in combination, do not render obvious the subject matter of claim 2.

For example, the Office action points to col. 3, lines 13-20 of the Ross patent as allegedly disclosing reducing the resolution in the spectral domain. The cited portion of the Ross patent states that the "rate of acquisition of images and the speed of movement of the media relative to the filter or imaging means may both be varied independently to alter the spatial and spectral resolution of the acquired images, . . ." Varying such characteristics as the rate of acquisition or the speed of movement, however, is different from *processing* previously derived measurements of a currency item to derive values at a different resolution. Varying the rate of acquisition of images and varying the speed of movement of the media are *pre*-processing activities.

The Office action also points to col. 2, line 14 of the U.S. counterpart to Holl as allegedly disclosing processing measurements to derive values at a different resolution. That is incorrect. Instead, Holl states as follows:

> The detector can be for example a CCD sensor, but preferably consists of photodetector arrays, which are available on the market as CMOS photodetector chips. Depending on the desired resolution, such CMOS photodetector chips can be disposed in a larger or smaller number on a given surface area.

Thus, according to Holl, the number and arrangement of CMOS chips determines the resolution. This disclosure of Holl is similar to what is disclosed at page 5, lines 24-26 of the specification

of the pending application (*i.e.*, that the resolution of the *measured* values typically is determined by the spacing of the sensor elements and the shifting of the banknote between each set of measurements). There is no indication in Holl that any measurements are *processed* to derive values at a different resolution.

Furthermore, even if the Ross patent or Holl discloses processing previously derived measurements of a currency item to derive values at a different resolution, neither these references nor the other cited references render obvious the subject matter of claim 2, which includes "deriving a feature vector using the subset of spectral components."

The Office action (at page 12) acknowledges that Ross in combination with Holl does not disclose deriving a feature vector using the subset of spectral components. The Office action, however, points to col. 9, line 28 of the Imagawa patent, which discloses an "in-group similarity vector," and argues that the in-group similarity vector allegedly corresponds to the claimed "feature vector."

Applicant submits that under the Supreme Court's *KSR Int'l v. Teleflex, Inc.* (2007) decision and under the applicable rules of the Patent and Trademark Office, it remains necessary to provide a reason to explain why one of ordinary skill in the art would have modified Ross and/or Holl to incorporate Imagawa's "in-group similarity vector" so as to render obvious the claimed subject matter. As explained below, the Office action fails to set forth such a reason in any coherent fashion.

Imagawa discloses a learning and recognition machine that includes fine classification sections 1 (*see* FIG. 2). Each fine classification section 1 includes a calculating section 1a for calculating an in-group similarity, which represents a degree of resemblance of an input pattern signal to each category contained in a category group (col. 6, lines 60-65). A discriminating signal loading section 7 weights the in-group similarity obtained form the fine classification section 1. As further explained by the Imagawa patent (col. 10, line 62 – col. 11, line 3):

> As described above, according to the present embodiment, the weight of each fine classification section is modified based on the

learning control signal weighted by the group belongingness output by the major classification section, so that the fine classification sections in which the category to which the input pattern signal belongs learn in a coordinated manner and it is possible to improve a recognition rate of a pattern situated at the boundary of the category groups.

Applicant submits that a person of ordinary skill would have had no reason to modify the Ross and/or Holl references in view of Imagawa so as to obtain the claimed method including "deriving a feature vector *using the subset of spectral components*." In particular, the Office action fails to set forth a coherent reason as to how or why it would have made sense to combine Imagawa's "in-group similarity vector" with the disclosures of the Ross and/or Holl references so as to obtain the subject matter of claim 2 (as amended).

The other claims should be allowable at least for the same reasons.

Conclusion

It is believed that all of the pending claims have been addressed. However, the absence of a reply to a specific rejection, issue or comment does not signify agreement with or concession of that rejection, issue or comment. In addition, because the arguments made above may not be exhaustive, there may be reasons for patentability of any or all pending claims (or other claims) that have not been expressed. Finally, nothing in this paper should be construed as an intent to concede any issue with regard to any claim, except as specifically stated in this paper, and the amendment of any claim does not necessarily signify concession of unpatentability of the claim prior to its amendment.

The fee for the Petition for Extension of Time is being paid electronically via the EFS system. Please apply any other charges or credits to deposit account 06-1050.

Respectfully submitted,

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